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# FORESTRY



**SCHOOL OF MINING AND AG-  
RICULTURE, KINGSTON, ONT.**

## **FORESTRY EDUCATION.**

### **Narrative of the Steps Taken to Found a School of Forestry at Kingston.**

The interest taken by Queen's University in Forestry dates back to the winter of 1894-5. For eight years the University has had the project of promoting the scientific study of this subject under consideration, and it has urged the matter upon the attention of the Ontario Government since January, 1901.

The old Forestry Association, which numbered Sir H. Joli de Lotbiniere, Wm. Little, Esq., Dr. A. T. Drummond and Dr. Robert Bell among its members, had died for want of enlightened public sympathy. In 1894 the Royal Society of Canada took up the matter and brought over the Director of the Forestry Division of the United States, Professor B. E. Fernow, to lecture before its fellows and their friends.

Included in the membership of the Royal Society are representatives of every university in Canada. One of the representatives of Queen's present was Dr. Goodwin, the Director of the School of Mining, and he became interested in the subject. In the ensuing winter he brought the matter before the Senate of Queen's University. His suggestion was that Professor Fernow be invited to Kingston to give a short course of lectures as a preliminary to more extended work. A committee consisting of Principal Grant, Dr. Goodwin and Prof. Shortt was appointed to consider the proposition.

This committee, after careful discussion, was obliged to report that, notwithstanding the great importance of the subject, Queen's could not undertake out of her narrow income to carry out the suggestion. This report was submitted and adopted with reluctance; but at that time Queen's had to face a decreasing income and an annual deficit.

However, the matter was not dropped. In June, 1896, Dr. Goodwin and Prof. Fernow were in correspondence, and a letter from Prof. Fernow, quoted elsewhere, indicates lines upon which the University could undertake the teaching of Forestry with profit to the public. Dr. Goodwin was revolving various projects, which included the linking of Forestry with the instruction in geology, engineering and economics, given in the University, and the institution of a system of practical demonstration of the principles of Forestry.

In 1899, with the encouragement of the Minister of the Interior at Ottawa, the Canadian Forestry Association was formed with headquarters at Ottawa. This Association was joined at once by representatives of Queen's and the School of Mining, and, in addition to the older friends of Forestry, many of the larger lumbermen, such as Mr. Booth, Mr. Rathbun, Mr. Robinson, Mr. Bertram, and others, showed a strong interest in it. Among the representatives of Queen's and the School of Mining were Dr. A. T. Drummond, a trustee of Queen's University, and Dr. Goodwin, Director of the School of Mining.

In the autumn of 1900 the subject was once more brought before Principal Grant, who was convinced that the time was ripe for the introduction of Forestry as a college course in Canada. The Board of Governors of the School of Mining and Agriculture gave the proposition favourable consideration, and in January, 1901, they brought Professor Fernow, then Director of the New York State College of Forestry, to Kingston to lecture and take part in a conference of those interested in Forestry.

The circular in which this conference was called was dated 14th January, and described the purpose of the gathering as "to consider the best means for the preservation and renewal of our forests, for using them to the best advantage, and for providing proper education to these ends." Prof. Fernow's lecture, which was illustrated by lantern views, was on "The Forest, Its Care, Its Use, Its Enemies, Its Management and Reproduction."

Three days later, 17th January, 1901, the Board of Governors of the School of Mining not only considered the matter, but decided to include Forestry in their scheme of education; as appears from the following extract from minutes of meeting of Board of Governors of the School of Mining, held Jan. 17th, 1901:

"Moved by G. M. Macdonnell, seconded by R. Crawford, and carried, that the proposed bill enlarging the scope of the School of Mining to include all branches of electrical engineering, optics and forestry, and all branches of geological, biological and physical science be submitted to the Hon. Mr. Harcourt and the Attorney-General for their opinion as to its necessity. If necessary the required notice to be given."

Thus as early as January, 1901, the School of Mining was contemplating the teaching of forestry and was actively and energetically stirring up public opinion on the subject.

The lecture by Prof. Fernow on Jan. 21, '01, was a great success and convinced any present who had been doubtful the time had come for the advent of the forest engineer in Canada. It was well attended, and there were in the audience, besides the local University men.

the Hon. Mr. Harcourt, Minister of Education, Hiram Calvin, Esq., M.P., S. Russell, Esq., M.P.P., W. R. Dempsey, M.P.P., E. J. B. Pense, Esq., M.P.P., Dr. Fletcher, Dominion Entomologist, Mr. R. H. Campbell, Secretary of the Dominion Department of Forestry, and many others equally interested in educational and economic matters. Mr. Pense, in moving a vote of thanks to the lecturer, said that Queen's had several branches of education not to be found at Toronto or Montreal, and it would be quite in order to add another — forestry.

On that occasion Mr. Harcourt spoke as follows (Report of *Kingston Whig*, Jan. 22 1901) :

"He was delighted to see that the question of Forestry was receiving attention at a university. Queen's, he said, had the reputation of undertaking new projects, and it would be a grand thing for the country were a school established at Kingston. Canada has reached the time when she must face the question of how her lands are to be retimbered."

On the day following a conference on forestry was held in the Senate room of Queen's, where such subjects were discussed as "Professional Forestry, can it be profitably practised in Canada?"; "Forestry Education," etc. Among the speakers who took part in this discussion were Professor Fernow, Dr. Fletcher (of Ottawa), Mr. R. H. Campbell (Forestry Division), Principal Grant, Dr. Dyde, Mr. Craig (representing the Rathbun Co.), and Dr. Goodwin. Dr. Fletcher stated that in his opinion a school should be established. Principal Grant held that what was now wanted was a definite and continued action towards professional forestry. What we want is a man imbued with the spirit of Professor Fernow — a man who would gather definite information throughout Canada, and give lectures at all centres in the country. No government can be expected to take action regarding the establishment of a school until the people have been interested in the matter. Forestry would be fully discussed by Queen's Senate—the matter would not be dropped. Professor Dyde advocated a series of lectures on forestry at Queen's next session; in these, he suggested, Superintendent Stewart, of the Dominion Forestry Division, might assist. Evidently both the Senate of Queen's and the visitors were fully alive to the importance of making a beginning.

The following extracts from letters received in answer to the circular will serve to show the way in which the subject of forestry and this method of bringing it before the public were regarded by representative men:—

The Hon. Sydney Fisher, Minister of Agriculture, writes: "Certainly there is no subject which requires more careful study and

thoughtful investigation than this to-day in Canada. I wish you all success with the meeting."

From Hon. E. J. Davis, Minister of Crown Lands: "I need not say that I am very much interested in the work of forestry, and we are doing a deal in the Province in that direction, and trust the future will enable us to increase our usefulness in this respect."

From E. W. Rathbun, Esq., Deseronto: "I hope many will avail themselves of this opportunity to hear Prof. Fernow. I have never met one whose enthusiasm in forestry is founded on such an experience. . . . I wish we could have him give a lecture in every county in Ontario. I am sure you are making no mistake in identifying the School of Science with this important branch."

From Thos. W. Gibson, Esq., Director of the Bureau of Mines: "I should be glad if it were possible for me to be in attendance, as the subject is one of great if not vital importance to the agriculture, arts and industries of the Province of Ontario and of Canada as a whole. . . . You have my cordial good wishes for the success of the movement in which you are engaged."

The following extract is from the letter of Dr. Robert Bell, Director of the Geological Survey, who for many years had studied Canadian forests and forest trees, and who has made many valuable contributions to the literature of the subject. He writes: "I hope the idea of establishing a college of forestry in Kingston will be realized, as it would do an immense good. . . . It would be greatly to the credit of those who are the first to put it in a definite shape and make some kind of a beginning."

W. C. Caldwell, Esq., M.P.P., writes: "I had hoped to be able to attend but have a badly sprained ankle—I would have liked so much to have heard Prof. Fernow's experience and to have gotten a general idea on what lines the preservation of our forests are expected to be carried out. One thing we all know, that we cannot begin too soon to put a stop to the extravagant waste that is going on at present."

Wm. Little, Esq., of Westmount, who has been a lifelong advocate of more conservative methods of lumbering, writes as follows: "Few things would give me as much pleasure as to be with you to extend to Prof. Fernow my heartiest congratulations and acknowledgments for the intelligent work he has for so many years performed in the service. . . . Indeed, I know of none to whom America is so much indebted for the fact that the great question is now beginning to be regarded with the importance it merits. To his scientific and practical knowledge of the subject and his able and persistent labours to enlighten the public and to arouse an intelligent inter-

est in forestry in America, this country is, in my opinion, more indebted than to any other single factor."

Letters of like tenor were received from Hon. E. H. Bronson, of Ottawa, Thos. Southworth, Esq., (Director of Forestry), J. B. McWilliams, of Peterboro, Hon. J. R. Stratton, Hon. Clifford Sifton, Sir Henri Joli de Lotbiniere, and others.

Four things are plain in these letters:

1. The writers recognize that an important initial step was being taken towards forestry education.
2. That the subject was one of the greatest importance.
3. That the right man had been chosen to introduce it to the gathering in Kingston, and
4. That the writers were in hearty sympathy with the idea of establishing a School of Forestry in Kingston.

During the years 1900 and 1901, the subject of government aid to Ontario Universities was under discussion, and the claims of Queen's were vigorously pressed by Principal Grant. The negotiations with the government were conducted by him under constant consultation with the Hon. Wm. Harty, Chairman of the Mining School Board. They urged the establishment of a School of Forestry in connection with the School of Mining at Kingston. This was part of the scheme for extending the School of Mining into a School of Practical Science. The Government, recognizing the benefit to the lumber and other industries of the Province, sure to follow the work of a forestry school, agreed to help, and suggested that provision should be made for the School of Forestry in the new buildings for which they had decided to vote the money. The Government soon after assented to an amendment to the act of incorporation providing definitely for the teaching of forestry. The Ontario Legislature was thus in April, 1901, advised of the intention of the School of Mining to add forestry to its subjects. Indeed, the act (chap. 44, &c.) which was entitled "An Act to Amend the Act respecting the School of Mining and Agriculture at Kingston" and which was assented to on the 15th of April, 1901, contained the following explicit declaration:—

"The said corporation is hereby authorized and empowered to establish and maintain classes for the training and education of students in electrical science, optics, *forestry*, and all branches of biological, geological and physical science."

A definite promise of a grant to aid in establishing a School of Forestry at Kingston was given by the Premier, who authorized the Hon. Mr. Harty to communicate the fact to Principal Grant. This Mr. Harty did in a letter dated March 8th, 1901, in which the grant is promised as soon as the building in which forestry was to be pro-



vided for was ready. That building is now completed, and the Board of Governors have devoted one storey to the department of Forestry.

The corner stones of the new buildings were laid on April 30th of this year by Sir Sandford Fleming and the Hon. Richard Harcourt. On that occasion the Minister of Education spoke as follows (*Globe* report, May 1st, 1902) :

"Mr. Harcourt noted with especial satisfaction the work done by Queen's in opening new fields of usefulness. The School of Agriculture established in connection with the University had been a distinct success. So also had been the School of Mining, and no small portion of the expansion of the mining industry of Ontario had been due to the work of the School. . . . Forestry was a most important subject in the development of Ontario: he hoped that in the new building room would be made for this subject. In the opinion of every member of the Government none of the expenditures of the Province had been more wisely made than those granted to the School of Mining and Agriculture. The Government stood ready to assist them in laying the foundations of the important department of forestry in Queen's."

In completing the new buildings full value has been given to those suggestions. The plans of these buildings have been submitted to the Government and approved; and with the full knowledge of the Government the department of forestry has been provided for in one of them.

On Nov. 12th, 1901, Dr. A. T. Drummond, a trustee of Queen's, submitted to the Premier and the Hon. E. J. Davis, Commissioner of Crown Lands, a memorandum setting forth the necessity for putting a forest reserve into the hands of the School of Forestry so as "to give the Forestry students the practical side of their work in the field during the spring and summer."

In order to keep the subject before the public and pave the way for the opening of the School of Forestry, a number of articles have been written for the public press (see *Queen's Quarterly*, April, July and October, 1902,) by friends of the University and of the School of Mining. In these articles a scheme for starting educational work in forestry is wrought out in considerable detail, the nature of the instruction suitable to our conditions, the best way of securing students, and kindred subjects, being considered.

It only remains to consider the practical steps necessary to establish the study of the subject. Writing to Dr. Goodwin on 1st June, 1896, Prof. Fernow showed how the scientific treatment of forestry could be combined with the educational forces at work in Kingston. He wrote: "In a school like yours there are three places that

I can see where lectures on Forestry could be introduced, namely, as a part of surface geology when the influences of forest cover on erosion, waterflow, climate, etc., can be properly discussed. The second place is in the course of engineering; when materials of construction are being discussed it would be quite proper to give the students an idea as to how wood is produced. The third place would be in a course of lectures on general topics and especially economics, when the position of the forest industry and its requirements can be more or less lengthily discussed. . . . These courses are, to be sure, not intended for the purpose of making professional foresters. That is an entirely different matter and must be especially provided for.

"As to your second question, namely, whether it would be feasible to use 500 or 1000 acres of land partly covered with timber, so as to work up a particular demonstration of good forestry, that is of course quite feasible, although it would be a still better object lesson if a piece of good forest land should be placed under management, when it could be shown that by the mere manner of cutting the crop a most desirable reproduction of new crop could be secured.

"Altogether the movement for a more rational treatment of our forest resources seems to acquire of late a momentum which a few years ago was absent, and I expect that within the next decade or so considerable inquiry on the part of lumber concerns will arise for people instructed in forestry."

The suitability of Kingston as a place in which to establish a School of Forestry has been fully recognized, as seen from Mr. Harcourt's speeches above referred to. Queen's University and the School of Mining provide all the groundwork for forestry education. Only the purely technical subjects will have to be added, including forestry, silviculture, &c. The city is within easy reach of extensive areas of land suitable only for growing timber and still fairly well timbered. Not more than fifty miles away is the Eastern Ontario Forest Reserve. Eastern Ontario, of which Kingston is the educational centre, has extensive lumber interests and a large body of lumbermen and millmen who are very much alive to the necessity for new light on their industries. The School of Mining has been a pioneer in educational methods in mining and has led the way in adapting itself to Canadian conditions. Pioneer work of the most careful and cautious character is required in forestry, and it can be safely entrusted to an educational body which has already shown itself adapted to such work.

In May, 1902, negotiations were begun with Professor Fernow and arrangements were finally made for him to deliver a course of lectures on Forestry in January, 1903, on such subjects as *The Forest as a Resource*, *Forest Industries*, *Forest Growth*, *Forest Crop*



*Production, Care and Improvement of the Forest Crop, Lumberman and Forester, Forest Economy or Business Methods, Principles of Forest Policy, and Forest Utilization.* These lectures were projected as preliminary and introductory to the inauguration of the School of Forestry next session by means of the promised aid of the Government, with regular three and four year courses in forest engineering. The scheme also includes educational work in lumbering centres such as Ottawa, Renfrew, Pembroke, Mattawa, Parry Sound, Byng Inlet, Deseronto, Peterboro, etc., so as to reach out to those who are not able to come to Kingston.

Here, then, is a large body of evidence which shows conclusively that the subject of forestry education has been carefully considered and prepared for by Queen's University and the School of Mining, the preparation extending over a period of eight years.

To sum up: Since 1895 Queen's University and the School of Mining have been agitating for the introduction of forestry education into Canada. It has been discussed by them publicly on the platform and in the press. The School of Mining has paid the expenses of lectures on forestry delivered at Kingston, and has been encouraged by the sympathy and support of prominent men throughout Ontario. The promise of the Ontario Government has been given to assist in establishing a School of Forestry in Kingston, and an act has been passed by the Ontario Legislature empowering the School of Mining to teach forestry. During this whole period no other Canadian University or School of Practical Science has, so far as known, taken any active measures to establish a School of Forestry.

WM. HARTY,

*Chairman of the Board of Governors.*

The School of Mining and Agriculture,  
Kingston, Jan. 15th, 1903.

